

ABSTRACT OF THE DISCLOSURE

The present invention discloses a capacitive high-side switch driver for a power converter. The capacitive high-side switch driver according to the present invention includes an inverter and two alternately conducting totem-pole buffers with complementary duty cycles. The duty cycles alternate in response to an input signal. The capacitive high-side switch driver further includes a low-side transistor and a high-side transistor. Once the low-side transistor is turned on, a bootstrap capacitor is charged to create a floating voltage via a charge-pump diode to supply power for the high-side switch driver. To supply additional power for the high-side switch driver, differential signals are produced to further charge the bootstrap capacitor via a bridge rectifier. The capacitive high-side switch driver utilizes a programmable load to provide variable impedance. This strengthens the noise immunity of the circuit. Furthermore, an under-voltage protector supervises the supply voltage to ensure a reliable gate driving voltage.